

CLAIMS:

1. An image distortion method comprising the steps of:
 - (a) maintaining in computer memory a set of base data values representing an image to
5 be subjected to a transformation function;
 - (b) calculating an approximation of the transformation function;
 - (c) retrieving from computer memory one or more of the data values;
 - (d) calculating an intended magnification value (M_s) for one or more of the retrieved data values;
 - 10 (e) calculating an estimated magnification value (M_e) for one or more of the retrieved data values;
 - (f) storing in computer memory the estimated magnification values as a set of transformed data values representing the transformed image;
 - (g) calculating the difference (M_E) between the intended magnification value(s) and the
15 estimated magnification value(s); and
 - (h) repeating steps (c) to (g) until M_E is less than a predefined threshold.

2. An image distortion method as claimed in claim 1 wherein the step of calculating an approximation of the transformation function further comprises the steps of:
 - 20 (a) defining an approximating function to approximate the transformation function, the approximating function including one or more parameters;
 - (b) defining an initial value of one of the parameters (p);
 - (c) calculating the maximal value of the derivative of the approximating function using the parameter p ;
 - 25 (d) calculating the maximal intended magnification value using the parameter p ;
 - (e) calculating the difference between the maximal value of the derivative and the maximal value of the intended magnification value;
 - (f) adjusting the value of p ; and

(g) repeating steps (c) to (f) until the difference between the maximal value of the derivative and the maximal value of the intended magnification value is less than a pre-defined threshold.

- 5 3. An image distortion system for subjecting a set of base data values representing an image to a transformation function, the system comprising:
 - a transformation approximation component configured to calculate an approximation of the transformation function;
 - an intended magnification calculator configured to calculate an intended
 - 10 magnification value (M_s) for one or more of the data values;
 - an estimated magnification calculator configured to calculate an estimated magnification value (M_e) for one or more of the data values; and
 - a convergence measurer configured to compare the difference between the intended magnification value and the estimated magnification value (M_e) with a threshold value.